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JAN 25 1968

# GENERAL SOIL MAP OF COLES COUNTY, ILLINOIS

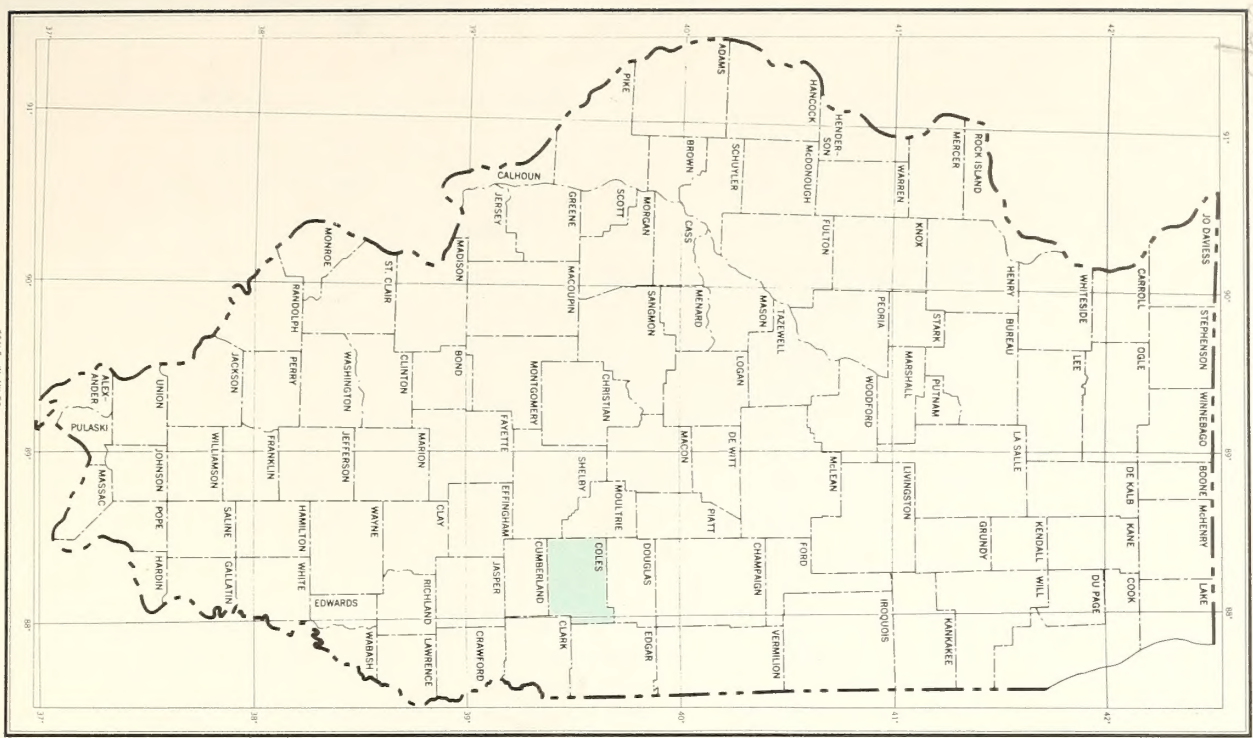
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A generalized county map showing major soil areas, including generalized descriptions of the soils and their estimated limitations or suitability for selected uses.

BASE MAP



The general soil map of Coles County shows 9 main patterns of soils called soil associations. Each association contains a few major soils and several minor soils in a pattern that is distinctive, although not entirely uniform.

The soils within any one association differ in some properties, such as drainage, slope, texture, or surface color. Thus, the general soil map does not show the kind of soil at any particular place, but several different soils that occur in a similar pattern.

The soil associations are named for the major soil series in them, but as already noted, soils of other series are also commonly present. The major soil series of one soil association may also be present in other associations, but in a different pattern and proportion.

The general soil map showing patterns of soils is useful to people who want a general idea of the soils, who want to compare different parts of a county, or who want to know the possible location of good sized areas suitable for a particular use. For information about smaller areas such as a field, one needs to use a detailed soil map.

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APRIL 1968**







LEGEND

## SOIL ASSOCIATIONS

1. **Flanner-Flanagan Association:** dark-colored, poorly and somewhat poorly drained, nearly level soils formed in 3 to 4 feet of silty material over loamy material.
2. **Flanagan-Roub-Drummer Association:** dark-colored, somewhat poorly and poorly drained, nearly level to undulating soils formed in 2 to 4 feet of silty material over loamy material.
3. **Dona Association:** dark-colored, moderately well drained, moderately sloping soils formed in 1½ to 3 feet of silty material over loamy material.
4. **Drummer-Brenton Association:** dark-colored, poorly and somewhat poorly drained, nearly level soils formed in 1½ to 3 feet of silty material over layered loamy and sandy material.
5. **Cowden-Weir Association:** moderately dark and light-colored, poorly drained, nearly level "claypon" soils formed in silty material.
6. **Starks-Camden Association:** light-colored, somewhat poorly and well drained, nearly level to gently rolling soils formed in 1½ to 3 feet of silty material over layered loamy and sandy material.
7. **Fincastle-Xenia Association:** light-colored, somewhat poorly to moderately well drained, nearly level to gently sloping soils formed in 1½ to 3 feet of silty material over loamy material.
8. **Russell-Miami Association:** light-colored, well drained, gently rolling soils formed in less than 3 feet of silty material over loamy material.
9. **Strawn-Lawson Association:** light-colored, well drained sloping soils on the uplands adjacent to dark-colored, somewhat poorly drained, nearly level soils on the bottomlands.

LIMITING SOIL PROPERTIES IN TABLE 1

- |   |                                |   |                                      |   |  |
|---|--------------------------------|---|--------------------------------------|---|--|
| 1. Seasonally high water table at or near the surface.        | 4. Flooding or ponding hazard. | 7. Moderately to moderately slowly permeable. | 10. Unfavorable clay content.        | 13. High organic matter content.                  | 16. Erosion hazard.  |
| 2. Highly susceptible to frost heave.                         | 5. Slowly permeable.           | 8. Moderately sloping.                        | 11. Thin surface shrink.             | 14. Rapidly permeable below 3 feet.               | 17. Hazard of contaminating nearby underground water supply.           |
| 3. Seasonally high water table 1 to 2 feet below the surface. | 6. Strongly sloping to steep.  | 9. Moderately permeable.                      | 12. Moderate shrink-swell potential. | 15. Slippery and sticky when wet and slow to dry. | 18. Fair stability, compaction, and resistance to piping below 3 feet. |

TABLE 1 - ESTIMATED SOIL LIMITATIONS OR SUITABILITY FOR SELECTED USES

Soil Association	Soil Series	Percent of Soil Association	SOIL LIMITATIONS FOR:													SUITABILITY AS A SOURCE OF:	
			Building Sites	Septic Tank Filter Fields	Sewage Lagoons	Highway and Street Location	Pond Sites		Recreation		Trees and Shrubs	Sprinkler Irrigation	Drainage	Intensive Cropping			
							Reservoir Area	Embankment Material	Camping and Picnic Areas	Playgrounds					Topsoil	Fill Material	
1 Drummer Flanagan	Drummer Flanagan	50	Severe 1,2	Severe 1	Moderate 9	Severe 1,2	Slight	Slight	Severe 1,15	Severe 1,15	Moderate 1	Moderate 1	Severe 1	Slight	Fair 1,10	Poor 1,2,10,12	
	Minor Soils	40	Moderate 2,3	Moderate 3,7	Moderate 9	Moderate 2,3	Slight	Slight	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Good	Fair to Poor 2,3,10,12	
	Raub	10	Moderate 2,3	Moderate 3,7	Moderate 9	Moderate 2,3	Slight	Slight	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Good	Fair to Poor 2,3,10,12	
	Elburn		Moderate 2,3	Moderate 3,7	Moderate 9	Moderate 2,3	Slight	Slight	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Good	Fair to Poor 2,3,10,12	
	Others		Moderate 2,3	Moderate 3,7	Moderate 9	Moderate 2,3	Severe 14	Moderate 18	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Good	Fair 2,3,10,12	
2 Flanagan	Flanagan	35	Moderate 2,3	Moderate 3,7	Moderate 9	Moderate 2,3	Slight	Slight	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Good	Fair to Poor 2,3,10,12	
	Raub	30	Moderate 2,3	Moderate 3,7	Moderate 9	Moderate 2,3	Slight	Slight	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Good	Fair to Poor 2,3,10,12	
	Drummer	25	Severe 1,2	Severe 1	Moderate 9	Severe 1,2	Slight	Slight	Severe 1,15	Severe 1,15	Moderate 1	Moderate 1	Severe 1	Slight	Fair 1,10	Poor 1,2,12	
	Minor Soils	10	Slight	Slight	Moderate 9	Slight	Slight	Slight	Moderate 8	Slight	Slight	Slight	Slight	Slight	Good	Fair 10,12	
	Dana		Moderate 2,3	Moderate 3,7	Moderate 9	Moderate 2,3	Severe 14	Moderate 18	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Good	Fair 2,3,10,12	
	Others																
3 Dana	Dana	50	Slight	Moderate 8	Moderate 9	Slight	Slight	Slight	Moderate 8	Slight	Moderate 8	Slight	Slight	Slight	Fair 11	Fair 10,12	
	Minor Soils	50	Slight	Moderate 8	Severe 8,9	Moderate 8	Slight	Slight	Slight	Moderate 8	Slight	Moderate 8	Slight	Slight	Fair 11	Fair 10,12	
	Raub		Moderate 2,3	Moderate 3,7	Moderate 9	Moderate 2,3	Slight	Slight	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Good	Fair to Poor 2,3,10,12	
	Lawson		Severe 2,4	Severe 3,4	Severe 4	Severe 2,4	Severe 13	Moderate 13	Moderate 3,4	Severe 3,4	Slight	Severe 4	Moderate 3,4	Moderate 4	Fair 3,4	Poor 2,3,4,10,12	
	Others																
4 Drummer Brenton	Drummer Brenton	50	Severe 1,2	Severe 1,14,17	Severe 14,17	Severe 1,2	Severe 14	Moderate 18	Severe 1,15	Severe 1,15	Moderate 1	Moderate 1	Severe 1	Slight	Fair 1,10	Poor 1,2,10,12	
	Minor Soils	30	Moderate 2,3	Moderate 3,14,17	Severe 14,17	Moderate 2,3	Severe 14	Moderate 18	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Good	Fair to Poor 2,3,10,12	
	Willbrook	20	Moderate 2,3	Moderate 3,7,14,17	Severe 14,17	Moderate 2,3	Severe 14	Moderate 18	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Fair 11	Fair to Poor 2,3,10,12	
	Brooklyn		Severe 1,2,4	Severe 1,5,14,17	Severe 14,17	Severe 1,2	Severe 14	Moderate 18	Severe 1,4,15	Severe 1,4,15	Moderate 1	Moderate 1,5	Severe 1,5	Slight	Fair 11	Poor 1,2,10,12	
	Others																
5 Cowden Weir	Cowden	50	Severe 1,2,4	Severe 1,5	Slight	Severe 1,2	Slight	Slight	Severe 1,5,15	Severe 1,5,15	Moderate 1	Moderate 1,5	Severe 1,5	Slight	Fair 1,11	Poor 1,2,10,12	
	Weir	30	Severe 1,2,4	Severe 1,5	Slight	Severe 1,2	Slight	Slight	Severe 1,5,15	Severe 1,5,15	Moderate 1	Moderate 1,5	Severe 1,5	Moderate 5	Fair 1,11	Poor 1,2,10,12	
	Minor Soils	20	Moderate 2,3	Severe 3,5	Slight	Moderate 2,3	Slight	Slight	Moderate 3,5	Moderate 3,5	Slight	Moderate 5	Moderate 3,5	Slight	Fair 11	Poor 2,3,10,12	
	Oconee		Moderate 2,3	Severe 3,5	Slight	Moderate 2,3	Slight	Slight	Moderate 3,5	Moderate 3,5	Slight	Moderate 5	Moderate 3,5	Slight	Fair 11	Poor to Fair 2,3,10,12	
	Stoy		Severe 1,2,4	Severe 1,5	Slight	Severe 1,2	Slight	Slight	Severe 1,5,15	Severe 1,5,15	Moderate 1	Moderate 1	Severe 1,5	Slight	Fair 1	Poor 1,2,10,12	
	Others																
6 Slarks Camden	Slarks	55	Moderate 2,3	Moderate 3,7,14,17	Moderate 9,14,17	Moderate 2,3	Severe 14	Moderate 18	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Fair 11	Fair to Poor 2,3,10,12	
	Camden	30	Slight	Moderate 8,14,17	Moderate 8,9,14,17	Moderate 8	Severe 14	Moderate 18	Slight	Moderate 8	Slight	Moderate 8	Slight	Slight	Fair 11	Fair to Good 10,12	
	Minor Soils	15	Moderate 2,3	Moderate 3,7,14,17	Moderate 9,14,17	Moderate 2,3	Severe 14	Moderate 18	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Fair 11	Fair to Poor 2,3,10,12	
	Drummer		Severe 1,2	Severe 1,14,17	Moderate 9,14,17	Severe 1,2	Severe 14	Moderate 18	Severe 1,15	Severe 1,15	Moderate 1	Moderate 1	Severe 1	Slight	Fair 1,10	Poor 1,2,10,12	
	Others																
7 Fincastle Xenia	Fincastle	40	Moderate 2,3	Moderate 3,7	Moderate 7	Moderate 2,3	Slight	Slight	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Fair 11	Fair to Poor 2,3,10,12	
	Xenia	25	Slight	Moderate 7	Moderate 7	Slight	Slight	Slight	Slight	Moderate 8	Slight	Slight	Slight	Slight	Fair 11	Fair 10,12	
	Minor Soils	35	Moderate 2,3	Moderate 3,7	Moderate 9	Moderate 2,3	Slight	Slight	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Fair 11	Fair to Poor 2,3,10,12	
	Sabina		Moderate 2,3	Moderate 3,7	Moderate 9	Moderate 2,3	Slight	Slight	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Fair 11	Fair to Poor 2,3,10,12	
8 Russell Miami	Drummer		Severe 1,2	Severe 1	Moderate 9	Severe 1,2	Slight	Slight	Severe 1,15	Severe 1,15	Moderate 1	Moderate 1	Severe 1	Slight	Fair 1,10	Poor 1,2,10,12	
	Others																
	Russell	55	Slight	Moderate 7,8	Moderate 7,8	Moderate 8	Slight	Slight	Slight	Moderate 8	Slight	Moderate 8	Slight	Slight	Fair 11	Fair 10,12	
	Miami	20	Moderate 6	Severe 6,7	Severe 6	Severe 6	Slight	Slight	Moderate 6	Severe 6	Moderate 16	Severe 6	Slight	Moderate 6,16	Poor 11	Fair 10,12	
	Minor Soils	25	Moderate 2,3	Moderate 3,7	Moderate 9	Moderate 2,3	Slight	Slight	Moderate 3	Moderate 3	Slight	Slight	Moderate 3	Slight	Fair 11	Fair to Poor 2,3,10,12	
9 Strawn Lawson	Drummer		Severe 1,2	Severe 1	Moderate 9	Severe 1,2	Slight	Slight	Severe 1,15	Severe 1,15	Moderate 1	Moderate 1	Severe 1	Slight	Fair 1,10	Poor 1,2,10,12	
	Others																
	Strawn	40	Severe 6	Severe 6	Severe 8	Severe 6	Slight	Slight	Severe 6	Severe 6	Severe 16	Severe 8	Slight	Severe 6,16	Poor 11	Fair 10,12	
	Lawson	30	Severe 3,4	Severe 3,4	Severe 4	Severe 2,4	Severe 13	Moderate 13	Moderate 3,4	Severe 3,4	Slight	Severe 4	Moderate 3,4	Moderate 4	Fair	Poor 2,3,4,10,12	
	Minor Soils	30	Moderate 6	Severe 6,7	Severe 6	Severe 6	Slight	Slight	Moderate 6	Severe 6	Moderate 16	Severe 6	Slight	Moderate 6,16	Poor 11	Fair 10,12	
	Miami		Severe 1,4	Severe 1,4	Severe 4	Severe 1,2,4	Severe 13	Moderate 13	Severe 1,4,15	Severe 1,4,15	Moderate 1	Severe 4	Severe 1,4	Moderate 4	Fair 1,10	Poor 1,2,4,10,12	
Russell		Moderate 6	Severe 6,7	Severe 6	Severe 6	Slight	Slight	Moderate 8	Severe 6	Moderate 16	Severe 6	Slight	Moderate 6,16	Poor 11	Fair 10,12		
Others																	







SOIL ASSOCIATIONS OF COLES COUNTY, ILLINOIS

By DONALD HALLBICK APRIL 1968

EXPLANATIONS OF THE SOIL INTERPRETATIONS

Table 1 lists the Soil Associations and the major and minor Soil Series in each soil association. The Percent of Soil Association of each soil is also listed. The percentage of minor soils is a total of all minor soils in the association. Only the predominant minor soils are listed. Soil limitations or suitability are rated for selected uses. The slopes of each soil in the association have been considered in the ratings. Although the general soil map and table are guides for evaluating the soils, a detailed investigation of the site for proposed construction or use is needed. The soil interpretations are for soils in the natural state and not for disturbed areas.

Soils rated as slight are relatively free of limitations or limitations are easily overcome. Soils rated as moderate have limitations that need to be recognized, but can be overcome with good management and careful design. A severe rating indicates the limitations are severe enough to make use questionable. A severe rating does not mean the soil cannot be used for a specific use, but that careful planning and design and very good management are needed. In some cases, the limitations may not be economically feasible to correct.

The kinds of soil properties affecting the use of the soils in Table 1 will differ, depending on the particular use.

Building Sites are affected by properties such as susceptibility to frost heave, seasonal high water table, flooding or ponding hazards, and slope as it relates to cuts and fills, land slippage, and differential settling of moved material.

Septic Tank Filter Fields are influenced by the ease of downward movement of effluent through the soil. Soils with slow permeability are rated severe. Other soil properties that affect septic tank filter fields are flooding hazard, seasonal high water table, and topography. In some places in Soil Associations 4 and 6 there is rapidly permeable, sandy material below a depth of about 3 feet. Ground water contamination from septic filter fields is a definite hazard in these places and special on-site investigations are needed.

Sewage Lagoons are also influenced by the ease of downward movement of effluent through the soil. However, soils with slow permeability are most desirable. Other factors are flooding hazard, topography, and amount of organic material. All of the soils in Soil Association 4 are rated severe because of rapidly permeable, sandy material below a depth of 3 feet and likelihood of rapid seepage. Ground water contamination is an additional hazard.

Highway and Street Location is based on soil features that affect performance for the location of highways and streets. The main factors considered were depth to water table, susceptibility to frost heave, flooding hazard, and topography which influences the need for cuts and fills.

Pond Sites are divided into two parts - Reservoir Area and Embankment Material. The reservoir area is rated on the adequacy of the soil material to prevent water seepage from the reservoir. Soil properties most important are permeability and seepage rate, depth to water table, and high organic matter content. The soil properties considered for embankment material are those features of disturbed soils that affect their suitability for constructing earth fills. These include compaction characteristics, compacted permeability, resistance to piping and organic matter content.

Camping and Picnic Areas for recreation are subject to heavy foot and some vehicular traffic during the camping and picnicking season. Soils with a seasonally high water table at or near the surface and soils subject to flooding or ponding are rated severe. Other properties considered are permeability, surface soil texture, stoniness, and topography.

Playgrounds for recreation are highly developed for organized games. They are subject to heavy foot traffic and require a level surface, good drainage, and a soil texture that gives a firm surface. Soils that have a seasonally high water table at or near the surface, those subject to flooding or ponding, or those that are strongly sloping to steep are rated severe.

Trees and Shrubs are influenced by available moisture, depth to water table, and erosion hazard.

Sprinkler Irrigation is influenced by how much water soaks into the soil. Very strongly sloping to steep soils are rated as severe. Other properties or factors that influence the ratings are erosion hazard, water-intake rate, available moisture holding capacity, height of water table, flooding hazard, and ease of moving equipment.

Drainage is related to the natural drainage or wetness of the soil. Soils with a seasonally high water table at or near the surface are rated severe. Permeability or ease of air and water movement through the soil was also considered in the ratings. Many areas rated severe have been artificially drained and wetness is not a limitation when these areas are used as cropland. When used for other purposes, the artificial drains are often destroyed during construction and wetness is a limitation.

Intensive Cropping is affected by many factors, some of which are flooding hazard, permeability, available moisture capacity, soil texture, and erosion hazard.

Suitability as a Source of Topsoil is rated mainly on depth, texture, organic matter content, and wetness of the surface layer of undisturbed soil. Topsoil is considered to be used for establishing lawns. A rating of good means the soil provides a good source of topsoil for removal and transfer to another place or it can be used in place.

Suitability as a Source of Fill Material is rated on the basis that the material is removed and transported to another area to be used as fill material. Soils that have a high water table or flooding and ponding hazard that keeps the borrow area full of water are rated poor. Texture of the subsoil and substratum, susceptibility to frost heave, plasticity, and shrink-swell potential are other factors affecting the use of a soil as fill material.

1 - DRUMMER - FLANAGAN



This soil association is nearly level with very little change in relief. It occupies about 18 percent of the county, mainly occurring west of Illinois Route 130 and north of Dorans. Other areas are around Mattoon and south and east of Oakland. These dark-colored soils formed in 3 to 4 feet of loess (silty material) over loam glacial till.

Drummer soils are very dark-colored, poorly drained and moderately fine textured. These nearly level, low-lying soils occupy about 50 percent of the association. Surface layers are black silty clay loam. Subsoil layers are dark gray clay loam or silty clay loam mottled with yellows and grays. Underlying layers are mixed gray and brown loam. Drummer soils are well suited for use as cropland or pasture. The seasonally high water table at or near the surface is a limitation when used as croplands unless the soil has been artificially drained. The low-lying position, seasonally high water table, and susceptibility to frost heave are severe limitations for building sites, septic tank filter fields, highway and street locations and recreational uses.

Flanagan soils are dark-colored, somewhat poorly drained, and silty. These nearly level soils are on slight rises and occupy about 40 percent of the association. Surface layers are very dark brown to black silt loam. Subsoil layers are dark grayish-brown silty clay loam mottled with yellows and grays. The underlying layers are mixed gray and brown loam. Flanagan soils are very well suited for use as cropland or pasture. Slight wetness and susceptibility to frost heave are the main factors that affect its use for urban purposes.

Minor soils in this pattern are Raub, Elburn, and others. They occupy 10 percent of the association. Raub soils are dark-colored and somewhat poorly drained. They have silt loam surface layers and silty clay loam and clay loam subsoil layers over loam till. Elburn soils are similar except they have silty clay loam subsoil layers over layered loamy outwash.

The Drummer-Flanagan soil association is intensively cultivated. Cash-grain crops, especially corn and soybeans, are the major crops grown. Seasonally high water table is the main limiting property of these soils. They drain readily if tilled, but for urban and recreational uses, wetness remains a problem.

2 - FLANAGAN - RAUB - DRUMMER



This soil association is the largest in the county, occupying about 25 percent of the total area. The topography is gently undulating and the soils are nearly level to gently sloping. There are several areas in the county, with the largest starting near Mattoon and extending northeast to the county line. It ranges from 2 to 5 miles wide. Another area is near Ashmore extending to the county line to the east and about 4 miles to the north. There are 6 other small areas ranging in size from 1 to 6 square miles. These dark-colored soils formed in 2 to 4 feet of loess (silty material) over loamy glacial till.

Flanagan soils are dark-colored, somewhat poorly drained, and silty. These nearly level to gently sloping soils are commonly on long sloping areas or ridges near more poorly drained soils. They occupy about 35 percent of the association. Surface layers are very dark brown to black silt loam. Subsoil layers are dark grayish-brown silty clay loam mottled with yellows and grays. The underlying layers are mixed gray and brown loam. Flanagan soils are very well suited for use as cropland or pasture. Slight wetness and susceptibility to frost heave are the main problems when used for urban or recreational purposes.

Raub soils are dark-colored, somewhat poorly drained, and silty. These soils commonly occur on gentle slopes and occupy about 30 percent of the association. Surface layers are very dark brown to black silt loam. Subsoil layers are dark grayish-brown mottled with yellows and grays. The upper subsoil layers are silty clay loam and the lower ones are clay loam. The underlying layers are grayish-brown loam mottled with yellow and gray. These soils are well suited for use as cropland or pasture. Slight wetness and susceptibility to frost heave are the main factors influencing their use for urban or recreational purposes.

Drummer soils are very dark-colored, poorly drained, and moderately fine textured. These nearly level soils commonly are in the low-lying areas associated with drainage channels and finger into better drained soils. About 25 percent of the association is occupied by these soils. Surface layers are black silty clay loam. Subsoil layers are dark gray clay loam or silty clay loam mottled with yellows and grays. Underlying layers are mixed gray and brown loam. These soils are well suited for use as cropland or pasture. Unless these soils are artificially drained, wetness is a limitation when used as cropland. Susceptibility to frost heave and seasonally high water table at or near the surface are severe limitations for building sites, septic tank filter fields, highway and street location, and recreational uses.

Minor soils nearby are Dana, Elburn, and others. About 10 percent of the association consists of these soils. Dana soils are dark-colored and moderately well drained. They have silt loam surface layers, silty clay loam and clay loam subsoil layers, and loam underlying layers. Elburn soils are dark-colored and somewhat poorly drained. They have silt loam surface layers and silty clay loam subsoil layers underlain with layered loamy outwash.

The Flanagan-Raub-Drummer Association is an intensively cultivated area. Cash-grain farming predominates with corn and soybeans being the principal crops grown. A seasonally high water table is the main limiting factor for urban and recreational purposes.

3 - DANA



This soil association occupies about 2 percent of the county. It is the most rolling of the dark-colored soil areas in the county. There are 7 areas of this association scattered throughout the county and they range in size from 1 to 3 square miles. The areas occur north of Oakland along the county line, southeast of Ashmore also along the county line, and northeast of Trillo. The other 4 areas are at the upper ends of creeks. There are 2 between Mattoon and Charleston and 2 are in the northwest part of the county on tributaries draining into the Kaskaskia River. These dark-colored soils formed in 1½ to 3 feet of loess (silty material) over loam glacial till.

Dana soils are dark-colored, moderately well drained, and silty. They are moderately sloping, commonly on breaks to more poorly drained soils, and occupy about 50 percent of the association. Surface layers are very dark brown silt loam. The upper subsoil layers are dark yellowish-brown silty clay loam and the lower ones are yellowish-brown clay loam mottled with yellows and grays. The underlying layers are yellowish-brown loam mottled with grays and yellows. Dana soils are suited for use as cropland or pasture. The moderate slopes are a limitation when used for septic tank filter fields and playgrounds.

Minor soils nearby are Corwin, Lawson, Raub, and others. About 50 percent of this association is occupied by these soils. Corwin soils are dark-colored, moderately well drained and have silt loam surface layers, clay loam subsoil layers, and loam underlying layers. Lawson soils are dark-colored, somewhat poorly drained and have thick, silt loam surface layers over loam underlying material. Raub soils are dark-colored, somewhat poorly drained and have silt loam surface layers, silty clay loam and clay loam subsoil layers, and loam underlying layers.

The Dana association is mainly cultivated but some areas are used as pasture. Wetness in the low areas along the streams is a moderate problem when used as cropland. The moderate slopes on the uplands and wetness in the low areas limits their use for some urban and recreational purposes.

4 - DRUMMER - BRENTON



This soil association is nearly level with very little elevation change. It is one of the smallest associations, occupying about 2 percent of the county. The 3 areas in this association occur northwest of Mattoon and in the southeast and southwest corners of the county. These dark-colored soils formed in 1½ to 3 feet of loess (silty material) over layered loamy and sandy outwash.

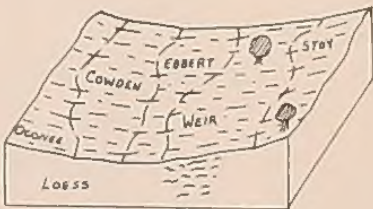
Drummer soils are very dark-colored, poorly drained, and moderately fine textured. These nearly level soils occupy large, broad flats or the low-lying areas. About 50 percent of the association is comprised of these soils. Surface layers are black silty clay loam. Subsoil layers are dark gray clay loam or silty clay loam mottled with yellows and grays. The underlying layers are mixed gray and brown layered loam or sandy loam. These soils are well suited for use as cropland or pasture if artificially drained. The seasonally high water table at or near the surface and susceptibility to frost heave severely limit these soils when used for many urban and recreational purposes. The underlying material is a severe limitation for pond reservoirs.

Brenton soils are dark-colored, somewhat poorly drained, and silty. These nearly level soils are generally on slightly higher areas surrounded by poorly drained soils. They occupy about 30 percent of the association. Surface layers are very dark brown silt loam. Subsoil layers are grayish-brown silty clay loam and clay loam mottled with yellows and grays. The underlying layers are mixed gray and brown layered loam or sandy loam. These soils are very well suited for use as cropland or pasture. Slight wetness and susceptibility to frost heave are moderate limitations when used for urban and recreational purposes. The loamy and sandy underlying material is a severe limitation for pond reservoirs and sewage lagoons.

Minor soils nearby are Millbrook, Brooklyn, and others. They occupy about 20 percent of the association. Millbrook soils are moderately dark-colored, somewhat poorly drained and have silt loam surface layers, silty clay loam and clay loam subsoil layers, and sandy loam or loam underlying layers. Brooklyn soils are similar except they have heavy silty clay loam to silty clay subsoil layers, are poorly drained, and occur in depressions.

The Drummer-Brenton soil association is intensively cultivated. Corn and soybean are the principle crops grown. Seasonally high water tables and susceptibility to frost heave are the main limiting factors for urban and recreational purposes. The underlying loamy and sandy material is a severe limitation for pond reservoirs and sewage lagoons.

5 - COWDEN - WEIR



This soil association consists of nearly level to gently sloping "claypan" soils. It occupies about 2 percent of the county. One area, in the southeast corner of the county, is about 6 square miles and the other, near the southwest corner along the south county line, is about 3 square miles. These moderately-dark and light colored soils formed in deep loess (silty material). Part of the association in the southeast corner of the county has loamy sand to sandy loam material below 4 feet.

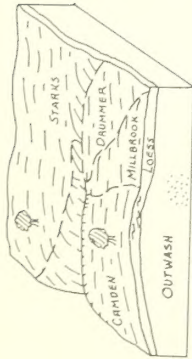
Cowden soils are moderately dark-colored, poorly drained, and silty. These nearly level soils are on broad flats and are primarily in the southwestern part of the area. They occupy about 50 percent of the association. Surface layers are dark grayish-brown over gray silt loam. Subsoil layers are grayish-brown silty clay loam mottled with yellow and gray. Underlying layers are gray silt loam mottled with yellow. Cowden soils are suited for use as cropland or pasture. Water moves through these soils at a slow rate. The seasonally high water table at or near the surface, high susceptibility to frost heave, and slow permeability severely limit these soils for many urban uses.

Weir soils are light-colored, poorly drained, and silty. These nearly level soils are on broad flats mostly in the southeastern part of the area. They occupy about 30 percent of the association. Surface layers are grayish-brown over light gray silt loam. Subsoil layers are gray silty clay loam mottled with yellow and brown. The underlying layers are clay mixed gray and yellowish-brown silt loam. Water moves through these soils at a slow rate. They are suited for use as cropland, pasture or woodland. The slow water movement and high water table limit productivity for crops and impose severe limitations for many urban and recreational uses.

Minor soils in the Cowden-Weir Association are Oconee, Stoy, Ebbert, and others. The minor soils occupy about 20 percent of the association. Oconee soils are moderately dark-colored, somewhat poorly drained soils and have silt loam surface layers, silty clay loam subsoil layers and silt loam underlying material. Stoy soils are similar except they have light-colored surface layers. Ebbert soils are also similar except they are poorly drained and have dark-colored surface layers.

The Cowden-Weir association is used mostly as cropland. A few areas are used as pasture or woodland. The main crops grown are corn and soybeans, with some small grains and hayland. The seasonally high water table, slow permeability and susceptibility to frost heave limit agricultural, urban and recreational uses.





This soil association is nearly level to gently rolling and occupies about 2 percent of the county. There are 6 areas in the county. The largest areas are along the south county line, one is in the southeast corner and the other is in the southwest corner. The other 4 areas are small and are located northwest of Oakland, east of U.S. Route 45 near the south county line and the others along the Embarras River. These light-colored soils formed in 1½ to 3 feet of loess (silty material) over layered loamy and sandy outwash.

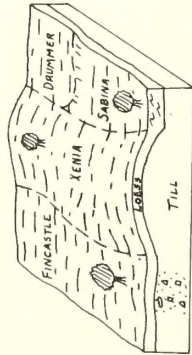
Starks soils are light-colored, somewhat poorly drained, and silty. These nearly level to gently sloping soils occur on the higher elevations on broad flat areas. About 55 percent of this association is occupied by these soils. Surface layers are grayish-brown over gray silt loam. Subsoil layers are yellowish-brown silty clay loam and clay loam mottled with yellows and grays. The underlying layers are mixed gray and brown layered loam and sandy loam. These soils are well suited for use as cropland, pasture or woodland. Slight wetness and susceptibility to frost heave are moderate limitations when used for urban and recreational purposes. The underlying material is a severe limitation when used for pond reservoirs.

Camden soils are light-colored, well drained, and silty. These gently to moderately sloping soils are commonly near the drainageways. They occupy about 30 percent of the association. Surface layers are grayish-brown over yellowish-brown silt loam. Subsoil layers are dark grayish-brown silty clay loam and clay loam. The underlying layers are yellowish-brown layered loam and sandy loam. They are well suited for use as cropland, pasture or woodland. The slopes generally limit their use for septic tank filter fields, sewage lagoons, and highway and street locations. The underlying loam and sandy loam material limits their use for pond reservoir areas.

Minor soils are Millbrook, Drummer, and others. Millbrook soils are moderately dark-colored and somewhat poorly drained. They have silt loam surface layers, silty clay loam and clay loam subsoil layers, and sandy loam and loam underlying layers. Drummer soils are similar except they are very dark-colored, poorly drained, and have silty clay loam surface layers. These minor soils occupy about 15 percent of the association.

The Starks-Camden Association is primarily used as cropland with cash-grain crops predominating. Seasonally high water tables in the nearly level areas and moderate slopes on the more rolling areas are the main limiting factors. The underlying loamy and sandy material is a severe limitation for pond reservoirs. This association is a possible source of sand, especially those areas near the Embarras River.

7 - FINCASTLE - XENIA



Miami soils are light-colored, well drained silty soils. These soils occupy about 20 percent of the association. They are generally strongly sloping or severely eroded. Surface layers are grayish-brown over light brownish-gray silt loam. Subsoil layers are yellowish-brown clay loam. The underlying layers are yellowish-brown loam glacial till. They are moderately suited for use as cropland, but are well suited for use as pasture or woodland. Erosion is a hazard when Miami soils are farmed. The strong slopes are severely limiting for septic tank filter fields, sewage lagoons, highway and street locations, and playgrounds.

This soil association is the second largest in the county, occupying about 24 percent of the total. It is nearly level to gently sloping and, in most places, is parallel to the streams adjacent to more sloping topography. Largest areas are in the eastern part near the Embarras River and its tributaries. Other areas are near the Kaskaskia River and south of Mattoon on the moraine. The areas are not wide, ranging from ½ to 2 miles, but are long. These light-colored soils formed in 1½ to 3 feet of loess (silty material) over loam glacial till.

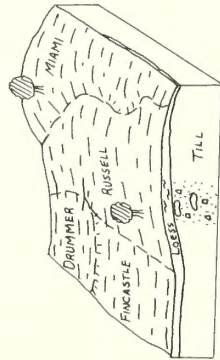
Fincastle soils are light-colored, somewhat poorly drained, and silty. These nearly level to gently sloping soils commonly are on the less sloping areas and occupy about 40 percent of the association. Surface layers are grayish-brown over light brownish-gray silt loam. Subsoil layers are grayish-brown silty clay loam and clay loam mottled with yellows and grays. The underlying layers are grayish-brown loam mottled with yellows and grays. These soils are well suited for use as cropland, pasture and woodland. Slight wetness and susceptibility to frost heave are the main limitations when used for urban or recreational purposes.

Xenia soils are light-colored, moderately well drained, and silty. These gently sloping soils are on the more sloping areas commonly near drainageways. They occupy about 25 percent of the association. Surface layers are grayish-brown over light brownish-gray silt loam. Subsoil layers are yellowish-brown silty clay loam to clay loam mottled with gray in the lower part. The underlying layers are mixed yellow and brown loam glacial till. Xenia soils are well suited for use as cropland, pasture and woodland. They are also suitable for most urban and recreational uses.

Minor soils nearby are Sabina, Drummer, and others. Sabina soils are light-colored and somewhat poorly drained. They have silt loam surface layers, silty clay loam subsoil layers, and loam underlying layers. Drummer soils are very dark-colored, poorly drained and have silty clay loam surface layers, silty clay loam and clay loam subsoil layers, and loam underlying layers. These minor soils occupy 35 percent of the association.

The Fincastle-Xenia Association is largely cultivated. Cash-grain farming predominates. Wetness on the nearly level areas is the main limiting factor for urban and recreational purposes.

8 - RUSSELL - MIAMI



This soil association is undulating to rolling and occupies about 10 percent of the county. There are many areas of this association but most are on the upper ends of the major tributaries or on the south face of the Shelbyville moraine across the southern end of the county. The soils are light-colored and formed in less than 3 feet of loess (silty material) over loam glacial till.

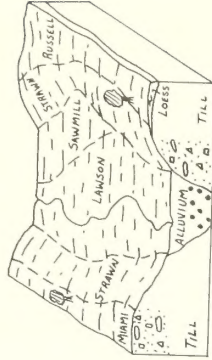
Russell soils are light-colored, well drained, and silty. They commonly are moderately to strongly sloping. They occupy about 55 percent of the association. Surface layers are grayish-brown over light brownish-gray silt loam. The subsoil layers are yellowish-brown silty clay loam and clay loam. Underlying layers are pale brown loam glacial till. These soils are well suited for use as cropland, pasture and woodland. The slopes limit their use for some urban and recreational purposes.

Miami soils are light-colored, well drained silty soils. These soils occupy about 20 percent of the association. They are generally strongly sloping or severely eroded. Surface layers are grayish-brown over light brownish-gray silt loam. Subsoil layers are yellowish-brown clay loam. The underlying layers are yellowish-brown loam glacial till. They are moderately suited for use as cropland, but are well suited for use as pasture or woodland. Erosion is a hazard when Miami soils are farmed. The strong slopes are severely limiting for septic tank filter fields, sewage lagoons, highway and street locations, and playgrounds.

Minor soils nearby are Fincastle, Drummer, and other soils. These soils occupy about 25 percent of the association. Fincastle soils are light-colored and somewhat poorly drained. They have silt loam surface layers, silty clay loam and clay loam subsoil layers, and loam underlying layers. Drummer soils formed in similar material except they are very dark-colored, poorly drained, and have silty clay loam surface layers.

The Russell-Miami Association is used mainly for cropland and partly used for pasture or woodland. This association is a mixture of cash-grain and livestock farming. Small grains and meadow are grown as well as corn and soybeans. Erosion is a hazard on the most sloping areas. The slopes are also the limiting factor for many urban and recreational purposes.

9 - STRAWN - LAWSON



This soil association is the most sloping in the county. It is hilly to very steep on both sides of nearly level bottomland and occupies about 15 percent of the county. There are two areas in the county. One is along the Embarras River and its main tributaries and the other is along the Kaskaskia River and its main tributaries. The area along the Kaskaskia River is about one-half mile wide while along the Embarras it is from one to two miles wide. The soil on the sloping areas formed from less than 1 foot of loess (silty material) over glacial till and the nearly level bottomland areas formed from silt loam alluvial material.

Strawn soils are light-colored, well drained, and silty. These soils are moderately steep to very steep and occupy about 40 percent of the association. The surface layers are grayish-brown over light brownish-gray silt loam. Subsoil layers are thin, yellowish-brown clay loam. The underlying layers are yellowish-brown loam. These soils are best suited for use as pasture or woodland. Erosion hazard is severe. The steep slopes are a severe limitation for most urban and recreational uses.

Lawson soils are dark-colored, somewhat poorly drained, and silty. They are on the floodplains of the major streams and occupy about 30 percent of the association. Surface layers are thick, very dark brown to black silt loam. Underlying layers are light brownish-gray loam and silt loam mottled with yellows and browns. These soils are suited for cropland if drained and protected from overflow. The overflow hazard and slight wetness severely limit Lawson soils for many urban and recreational uses.

Minor associated soils are Miami, Sawmill, Russell, and others. They occupy about 30 percent of the association. Miami soils are light-colored and well drained. They have silt loam surface layers, clay loam subsoil layers, and loam underlying layers. Sawmill soils are very dark-colored, poorly drained, silty clay loam alluvial soils. Russell soils are similar to Miami soils except they have silty clay loam and clay loam subsoils.

The Strawn-Lawson Association is mostly in woodland or used as pasture. Areas used for cropland are mainly in the bottomlands. In the cultivated areas, corn and soybeans are the main crops grown. The steep slopes on the uplands and the flooding hazard in the bottomland severely limit the use of this association for most urban, recreational, and agricultural purposes.